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REPORT
of the
MINUTES OF THE MEETING OF THE NORTH CENTRAL CORN BREEDING
RESEARCH COMMITTEE

Ames, Iowa
March 1-2, 1965

Reported by
G. F. Sprague, Secretary

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Crops Research Division
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NORTH CENTRAL CORN BREEDING RESEARCH COMMITTEE

EVENING SESSION, March 1

The North Central Corn Breeding Research Committee met on the evenings of March 1 and 2 during the Plant Breeding Symposium. The first session was called to order by Chairman J. C. Sentz at 7:30 p.m. A letter was read from Administrative Advisor, N. J. Volk, expressing his regrets at being unable to attend. The Chairman then appointed a Nominating Committee consisting of Wm. Wiidakas, M. S. Zuber, and J. H. Lonnquist, Chairman. A series of sub-committee reports were then presented.

REPORT OF THE SUB-COMMITTEE ON MEETING PLACE

This committee recommended that the 1966 meeting be held at the Sheraton-Chicago hotel on March 2 and 3, 1966. After some discussion as to details the report was approved.

W. A. Russell, Chairman
P. Crane
D. B. Shank
M. S. Zuber

REPORT OF THE SUB-COMMITTEE ON STABILITY AND GENOTYPE-ENVIRONMENTAL RESPONSE OF HYBRID TYPE

Plans were developed at the 1964 meeting for the production of 45 single-crosses and a balanced set of 45 double-crosses. The lines and hybrids are listed in the 1964 report. Seed of these items is now available for testing in 1965. In addition to the 90 hybrids mentioned above, 7 commercial singles and doubles, and 3 open-pedigree doubles, are to be included to bring the total number of items to 100. It is planned that this set of crosses will be grown at 8 or more locations utilizing as uniform procedures as local conditions will warrant. There was some discussion on number of locations and procedures to be used. It was decided that the Committee should give further consideration to details of procedure and report at the March 2 session.

S. A. Eberhart, Chairman
E. R. Leng
E. C. Rossman
M. S. Zuber

REPORT OF THE SUB-COMMITTEE ON HYBRID NOMENCLATURE

In the 1964 meeting, N. P. Neal raised a question relative to proper nomenclature for hybrids involving related lines on one or both sides of a hybrid pedigree. J. C. Sentz had written to Prof. W. H. Leonard, Chairman of the Committee on Nomenclature for the Crops Science Society of America, to determine whether consideration was being given to this topic. The reply indicated that the topic was not being considered and if referred to his Committee he would request assistance from representatives of the three Corn Conferences. After considerable discussion of the problem and the possible effect recommendations made by this committee would have in practice, it was MOVED by M. S. Zuber that the North Central Corn Breeding Research Committee go on record as favoring a uniform system of designation in which 2x and 3x are single- and three-way crosses, respectively, and that in the absence of a specific designation that the hybrid be assumed to be a double-cross. This motion was SECONDED but failed to pass.

REPORT OF THE SUB-COMMITTEE ON CORN ROOT WORM STUDIES

Drs. E. E. Ortman and P. J. Fitzgerald presented a brief review of the studies under way at the Northern Grain Insects Research Laboratory dealing with resistance to the corn rootworm. The rating system employed was discussed and illustrated by slides. Information on relative resistance of inbreds, single and three-way crosses was presented. The results are not presented here as a detailed report may be obtained from the Laboratory upon request.

A committee was appointed, consisting of Virgil Ferguson, G. E. Scott, and P. J. Fitzgerald, Chairman, to consider the possibility of cooperative rootworm tests for 1965.

P. J. Fitzgerald, Chairman
G. E. Scott
Virgil Ferguson

REPORT OF THE SUB-COMMITTEE ON MAIZE DWARF MOSAIC

Dr. A. J. Ullstrup presented an illustrated discussion of the symptom syndrome of "corn stunt" and "maize dwarf mosaic." He also reviewed the known distribution of these two viruses, their host range, and methods of transmission. Nurseries were grown near Portsmouth,

Ohio and in Bracken and Lewis Counties in Kentucky to evaluate resistance of inbred and hybrid material. The data obtained from these nurseries has been supplemented by extensive greenhouse tests at both Lafayette, Indiana and Wooster, Ohio.

A committee consisting of A. J. Ullstrup, F. A. Loeffel and W. R. Findley, Chairman was appointed to consider the need and to develop plans for further regional testing.

W. R. Findley, Chairman
F. A. Loeffel
A. J. Ullstrup

The meeting was ADJOURNED at 9:30 p. m.

EVENING SESSION, March 2

The meeting was called to order at 7:00 p. m. The first order of business was to receive reports of the several sub-committees.

REPORT OF THE SUB-COMMITTEE ON PRESERVATION OF GERMLASM

D. B. Shank estimated that over 80 percent of the open-pollinated varieties from the Corn Belt section of the United States are now in storage at Ft. Collins. It was his feeling that this Committee had fulfilled its original assignment and he MOVED that the sub-committee be disbanded.

The motion was SECONDED and passed.

REPORT OF THE SUB-COMMITTEE ON GROUPING OF INBRED LINES

W. A. Russell stated that this sub-committee had no formal report. He reminded the group that it has been the policy to present listing of new lines every three or four years. Plans are being made to up-date the earlier lists for presentation at the 1966 meeting.

REPORT OF THE SUB-COMMITTEE ON STABILITY AND GENOTYPE ENVIRONMENTAL RESPONSES OF HYBRID TYPES

The report of the previous evening was supplemented to provide more detailed information on procedures. The tests will be hand planted, thinned and hand harvested. Data are to be recorded on

yield in hundred weight per acre, grain moisture, root and stalk lodging, and dropped ears. Randomizations will be supplied each cooperator. Two replications will be used at each location. Each cooperator will compute the analysis of variance for his test and supply the committee with a copy of the analysis and treatment means. The combined analysis will be done at Ames, Iowa.

REPORT OF THE SUB-COMMITTEE ON UNIFORM TESTS IN THE 900 MATURITY SERIES

Single cross studies were evaluated on a regional basis in the 900 maturity group in 1964. Data were obtained from Missouri, Kentucky, Virginia and Arkansas on the yellow series and from Missouri and Kentucky, on the white series. Yield data were also obtained from Kansas. Four inbred testers were used in each series which permitted the prediction of three-way and double crosses on each of six possible speed parents. The results of the yellow and white single-cross trials are summarized in Tables 1 and 2 respectively. Three-way crosses and a group of selected double crosses have been predicted from single cross data in each endosperm color group and may be obtained by writing F. A. Loeffel, Department of Agronomy, University of Kentucky, Lexington, Kentucky.

F. A. Loeffel, Chairman
P. J. Loesch
C. E. Wasson
M. S. Zuber

Table 1. Summary of agronomic data recorded on 900 maturity white single crosses grown in Missouri and Kentucky in 1964.

Entry Number	Pedigree	Acre Yield bu.	Acre Yield bu./	Moist. at harv. %	Lodging		Popped %	Ear ht. ft.	Maturity Date	Stand %
					Root %	Stalk %				
01	CI 64 X Mo 18883W	67.5	19.8	13.8		32.2	1.7	3.6	17	96.7
02	X Mo 12014W	66.2	17.2	15.0		55.8	1.8	4.0	17	95.1
03	X T 115	77.4	36.3	13.1	0.3	29.0	2.2	4.2	16	97.0
04	X T 315	74.1	28.5	17.0		16.0	0.3	3.7	17	96.3
05	X CI 66	74.8	31.1	15.6	0.5	22.1	0.9	3.8	20	96.1
06	CI 64 X Ky 217	66.2	36.0	12.8		44.2	2.6	3.7	15	97.2
07	X Ky 216	76.0	23.0	14.8	0.3	29.4	1.3	3.7	15	97.0
08	X Mo 14 W	71.4	12.1	15.4	0.7	22.5	2.2	4.2	16	97.4
09	X K 6	72.7	26.5	14.1	0.3	24.1	0.3	3.8	17	97.7
10	X Ky 220	68.9	26.8	14.2		26.5	1.4	3.7	17	96.9
11	CI 64 X Ky 221	83.6	14.6	16.6	3.5	8.9	2.8	3.9	16	96.1
12	X Ky 222	83.0	27.0	17.1	3.8	10.0	1.7	4.0	14	95.3
13	X Ky 61-2062W	70.7	29.5	14.1	0.3	31.1	0.9	3.8	14	96.6
14	X Ky 61-2077W	71.9	16.0	13.7	2.1	25.9	0.9	3.8	15	94.1
15	X Ky 61-2107W	66.6	33.2	13.7	0.3	39.9	0.9	3.7	15	97.6
16	CI 64 X Ky 61-2261W	60.8	19.6	14.3		41.9	5.1	4.0	20	94.9
17	X Ky 223	72.4	18.6	16.0	1.7	31.3	0.7	4.0	20	97.0
18	X Ky 61-2301W	67.0	10.7	13.1		19.8	1.8	4.3	16	97.9
19	X Ky 224	72.4	5.5	17.1	1.0	10.0	0.5	4.1	20	100.0
20	X Ky 225	79.5	34.3	13.6	1.0	15.6	1.6	4.1	18	98.3
21	CI 64 X Ky 226	79.2	20.9	13.5	2.4	15.3	2.0	4.3	20	98.1
22	X Ky 227	67.7	13.9	16.5	1.7	17.4	2.7	3.9	16	97.2
23	X Ky 228	78.7	22.2	15.2	1.8	18.4		3.9	18	91.9
24	X Ky 229	74.6	32.2	13.3	1.1	26.2	1.6	3.3	13	88.2
25	X Ky 62-2488W	75.1	16.6	15.1		47.9	4.2	4.2	17	96.6
26	CI 64 X CI 127	79.8	30.9	15.0	1.0	32.8	4.3	4.3	17	97.4
27	X Ky 27	73.2	22.3	13.9		51.5	0.5	4.0	17	93.9
28	X Ky 230	70.2	26.3	14.1	0.3	11.9	3.8	3.5	17	96.8
29	X F 163	77.1	32.9	14.9	0.8	52.2		4.0	15	94.2
30	X K 9515	71.9	21.0	14.5	0.3	37.8	0.3	4.0	18	93.9

1/ Kansas Yield Data From Mound Valley and 1 Replication from Manhattan 2/ Lexington, Kentucky only

Table 1. (Cont'd.)

Entry Number	Pedigree	Acre Yield bu.	Acre bu./1/	Moist. at harv. %	Lodging		Droped %	Ear ht. ft.	1000 ears per bu.	Stand %
					Root %	Stalk %				
31	Ky2111 X Mo 12014W	69.3	27.5	13.4		46.5	0.5	4.1	17	95.7
32	X T 115	85.3	35.5	13.2	3.7	21.6	0.7	4.1	16	96.3
33	X T 315	83.0	27.6	13.6	0.3	18.8		3.9	15	95.7
34	X CI 66	79.4	11.1	13.8		17.1		3.7	18	91.7
35	X Ky 217	62.8	27.6	12.2		38.9	1.3	3.7	14	97.5
36	Ky2111 X Ky 216	72.1	31.0	13.0		23.3	1.0	3.6	14	97.4
37	X Mo 14W	69.5	7.3	13.3	1.6	25.6	1.4	3.7	20	91.7
38	X K 6	71.0	29.5	13.1	1.3	30.5	0.7	3.8	15	93.2
39	X Ky 220	69.1	29.1	12.9		14.9	0.5	3.5	15	95.6
40	X Ky 221	69.8	20.5	13.8	3.6	6.8		3.7	14	93.1
41	Ky2111 X Ky 222	72.2	22.2	13.7	3.6	15.2	1.3	3.9	15	97.2
42	X Ky 61-2062W	77.7	27.4	12.8	2.9	26.8		3.8	13	97.9
43	X Ky 61-2077W	67.1	12.8	13.2	0.5	19.7		3.9	14	91.1
44	X Ky 61-2107W	65.8	25.7	13.1	1.5	33.1	1.1	3.7	14	97.7
45	X Ky 61-2261W	78.4	13.3	14.0	0.6	22.3	0.6	4.2	18	81.8
46	Ky2111 X Ky 223	86.4	21.8	13.7	2.4	32.2	3.3	4.3	18	96.1
47	X Ky 61-2301W	77.0	13.6	12.6	2.0	22.9	1.0	4.4	16	95.3
48	X Ky 224	74.7	15.5	13.7	0.3	6.6	0.5	4.1	17	97.9
49	X Ky 225	81.6	19.2	12.6	0.5	11.6		3.9	15	95.4
50	X Ky 226	77.7	24.0	12.8	0.3	23.4	0.7	4.4	17	96.6
51	Ky2111 X Ky 227	76.7	22.7	14.5	5.0	13.2	1.6	3.8	15	97.9
52	X Ky 228	84.9	27.3	13.9	2.9	13.5	0.5	4.0	16	97.9
53	X Ky 229	73.2	39.3	12.3	0.3	13.0	0.9	3.5	12	96.3
54	X Ky 62-2488W	78.4	22.0	14.9	0.5	44.4	3.3	4.6	18	95.6
55	X CI 127	84.0	25.9	14.5	0.3	33.5	6.4	4.4	17	96.5
56	Ky2111 X Ky 27	72.2	24.2	13.1		59.5	3.1	3.8	15	93.7
57	X Ky 230	67.3	27.4	13.1	0.3	17.7	1.6	3.7	15	89.7
58	X F 163	81.8	17.8	13.7	5.9	22.5	3.0	3.8	14	93.0
59	X K 9515	85.7	38.7	13.1	2.1	35.4	1.3	3.5	13	95.4
60	33-16 X T 115	77.8	32.9	13.1	1.5	20.3	1.9	4.1	14	95.3

Table 1. (Cont'd.)

Line Number	Pedigree	Acre Yield bu.	Acre Yield bu./1/	Moist. at harv. %	Lodging		% Dropped	Ear ht. ft.	Maturity Date	Stand %
					Root %	Stalk %				
61	33-16 X Ky 220	75.1	18.8	12.1	0.3	18.4	0.9	3.8	14	93.1
62	X Ky 225	74.7	32.6	12.8	1.0	12.2	1.6	3.9	15	97.2
63	X Ky 27	69.1	22.3	12.3	0.7	32.1	3.5	3.9	14	97.1
64	X Ky 230	78.0	12.8	12.2	1.2	19.8	0.3	3.8	15	97.5
65	X F 163	82.9	35.5	13.1	2.3	30.7	1.0	3.9	13	94.4
66	33-16 X K 9515	82.9	28.2	13.6	2.5	33.4	1.3	3.8	18	96.3
67	X Ky 228	86.4	23.1	13.3	1.5	13.8	1.3	4.0	15	94.9
68	X Ky 62-2488W	73.0	19.4	13.7	2.0	24.9	0.7	4.3	15	97.2
69	Ky201 X Mo 12014W	59.6	13.6	14.6	2.2	23.3	2.1	4.1	17	77.4
70	X T 315	82.1	13.4	15.8	1.0	25.5	0.3	3.6	16	99.1
71	Ky201 X Ky 217	78.1	39.1	12.8		36.0	0.3	3.6	15	96.7
72	X Ky 216	82.0	9.9	14.5	0.3	15.7	0.5	3.6	17	97.9
73	X Ky 220	80.7	14.9	13.6		11.1	0.8	3.4	15	95.8
74	X Ky 221	69.4	13.4	14.6	1.4	7.3		3.5	15	96.7
75	X Ky 222	78.5	21.7	14.0	1.8	8.4	0.9	3.2	15	96.6
76	Ky201 X Ky 61-2062W	79.7	20.9	13.4		15.8	0.5	3.3	15	97.2
77	X Ky 61-2077W	73.6	11.0	13.3	1.0	7.8	0.5	3.6	15	95.7
78	X Ky 223	81.2	11.9	15.9	3.6	6.1	1.4	4.0	20	92.9
79	X Ky 61-2301W	72.7	20.8	13.4	0.7	25.6	0.5	3.7	18	96.1
80	X Ky 224	75.3	10.5	16.7		4.1	1.7	4.0	18	93.6
81	Ky201 X Ky 225	88.9	43.8	13.4	1.7	11.2	0.5	3.6	16	96.5
82	X Ky 226	69.2	13.8	13.6	1.0	5.7	0.5	3.7	20	96.5
83	X Ky 227	68.9	15.5	14.7	2.0	4.1	1.1	3.5	17	95.5
84	X Ky 228	71.7	12.1	15.6	0.5		0.9	3.6	18	97.8
85	X CI 127	73.2	17.1	14.8	2.8	23.1	6.7	4.1	18	96.1
86	Ky201 X Ky 27	70.7	20.1	13.8	0.5	29.7	3.1	3.5	17	97.4
87	X Ky 230	77.8	21.0	13.3		5.3		3.4	17	97.4
88	X F 163	79.5	25.0	14.6	4.9	31.5	0.5	3.5	17	88.8
89	X K 9515W	83.9	21.5	14.0	2.3	12.8	0.5	3.5	17	94.9
90	K 55 X CI 64	71.3	21.2	16.7	1.5	18.8	0.3	3.9	18	97.2
Mean		75.0	22.6	14.0	1.2	23.0	1.4	3.9	16	95.5

Table 2. Summary of agronomic data recorded on 900 maturity yellow single crosses grown in Missouri, Kentucky, Virginia and Arkansas in 1964.

Entry Number	Pedigree	Acre Yield bu.	Moist. at harv. %	Lodging		Dropped Ears %	Ear ht. ft.	Days to Mld Silk	Husk Score	Ear Rating	Stand %
				Root %	Stalk %						
01	H49 X Akh 48	86.3	21.3	1.0	9.2	1.0	3.8	75	1.7	1	93.6
02	X Akd 50	77.0	17.5	3.4	11.4	3.4	3.8	73	2.0	3	89.3
03	X Mo 13	84.1	21.1	4.2	7.6	0.0	3.7	73	2.7	3	93.0
04	X Mo 17	94.7	17.5	3.6	7.7	0.9	3.6	71	2.3	2	92.6
05	X N 30	89.8	18.2	1.0	13.1	0.9	3.9	73	2.7	2	93.6
06	H49 X R 134	89.2	18.2	1.6	6.2	5.9	3.8	73	2.7	3	95.2
07	X R 215	82.1	20.3	5.4	21.2	0.9	4.1	76	1.3	4	93.3
08	X T 218	87.2	18.2	0.4	6.9	4.3	4.0	74	1.7	3	94.7
09	X T 224	85.2	18.5	0.6	24.7	7.7	3.9	75	2.3	3	94.6
10	X Va. 17	71.3	18.8	2.7	10.1	0.9	3.3	75	2.0	2	92.8
11	H49 X Va. 36	92.0	18.3	2.1	14.1	0.0	3.6	76	1.7	3	94.2
12	X C 103	92.8	18.2	0.6	13.3	0.0	3.7	71	2.0	2	88.9
13	X Oh 29	87.6	19.4	1.4	11.3	0.9	3.4	73	2.0	3	92.9
14	X CI 21 E	89.4	19.4	3.1	12.6	1.7	3.9	75	2.0	4	93.7
15	X CI 38 B	89.1	18.8	2.9	9.2	0.0	3.8	72	2.0	3	96.7
16	H49 X Oh 7 B	88.8	18.0	0.4	4.5	0.9	3.8	75	2.0	2	91.4
17	X Ky 128	96.4	20.0	0.6	11.6	0.9	3.7	74	1.3	4	94.6
18	X Ky 61-1984	89.9	17.8	3.8	13.2	0.0	4.0	72	1.7	1	97.0
19	X Ky 129	87.7	18.0	1.2	17.2	0.0	3.8	73	2.0	3	94.9
20	X Ky 130	81.2	18.6	3.4	8.0	0.0	3.6	74	2.3	3	94.1
21	H49 X Ky 131	92.7	17.2	2.4	7.7	1.0	3.4	73	1.7	2	93.4
22	X Ky 132	81.5	19.3	1.2	10.6	0.9	3.7	74	2.0	3	93.0
23	X Ky 133	75.1	19.4	1.2	1.3	8.4	3.3	75	1.7	4	93.9
24	X Ky 61-2341	86.4	20.3	3.2	10.5	1.7	3.8	74	1.3	3	95.5
25	X Ky 36-11	84.5	20.1	2.0	17.5	0.0	4.0	77	2.3	4	94.3
26	H49 X Ky 134	81.2	21.8	0.9	7.5	0.0	3.3	73	2.0	1	92.3
27	B37 X Akh 48	91.0	19.6	2.9	6.4	0.9	4.2	75	0.5	1	94.3
28	X Akd 50	85.5	17.7	3.6	9.1	1.7	3.7	73	3.0	3	95.0
29	X Mo 13	89.4	18.6	4.1	12.1	0.0	3.7	74	2.3	2	92.7
30	X Mo 17	96.0	17.0	2.7	8.8	1.7	3.6	70	2.0	1	96.0

Table 2. (Cont'd.)

Entry Number	Pedigree	Acre Yield bu.	Moist. at harv. %	Lodging Root %	Stalk %	Dropped %	Ear ht. ft.	Days to Mid Silk	Husk Score	Bar Rating	Stand %
31	B 37 X N 30	89.1	16.6	1.8	10.3	0.9	3.6	72	2.3	2	94.8
32	X R 134	92.8	19.3	1.1	15.4	7.0	3.8	72	1.7	3	94.5
33	X R 215	84.3	18.1	2.8	15.5	0.9	3.6	74	1.3	3	94.2
34	X T 218	96.2	17.0	0.8	6.8	0.9	3.9	73	1.7	2	95.1
35	X T 224	86.8	17.8	1.7	19.5	1.7	4.0	75	2.0	3	95.6
36	B 37 X Va. 17	94.1	17.5	6.7	4.7	2.6	3.5	71	1.7	5	96.1
37	X Va. 36	97.3	16.9	2.0	7.6	1.7	3.5	75	1.0	1	94.0
38	X C 103	96.0	17.7	0.8	9.7	3.6	3.6	73	1.7	2	94.4
39	X CI 21 E	91.5	18.7	3.9	20.1	1.0	3.9	75	2.3	4	90.3
40	X CI 38 B	81.9	17.5	1.5	17.5	0.9	3.8	72	2.3	3	94.1
41	B 37 X Oh 7 B	99.1	16.8	5.7	8.2	0.9	3.8	73	3.0	2	93.2
42	X Ky 128	95.6	18.0	1.3	8.1	0.0	3.7	75	1.0	1	93.7
43	X Ky 61-1984	86.4	17.4	1.8	12.3	0.9	3.8	71	2.0	3	96.6
44	X Ky 129	93.6	18.1	1.6	16.5	0.0	3.8	73	1.7	1	95.2
45	X Ky 61-2122	87.2	17.7	1.9	14.0	0.0	3.4	71	2.3	3	95.8
46	B 37 X Ky 130	87.6	17.1	4.7	4.3	0.0	3.5	71	2.0	2	96.1
47	X Ky 131	87.2	17.6	3.5	7.9	0.0	3.0	72	2.0	3	94.5
48	X Ky 132	84.0	17.6	2.8	14.1	0.0	3.5	71	1.7	3	95.1
49	X Ky 133	85.1	19.0	0.8	10.3	1.7	3.7	74	1.7	3	95.1
50	X Ky 61-2341	90.1	18.1	3.6	13.6	0.9	3.4	72	1.7	3	95.1
51	B 37 X Ky 36-11	88.6	17.7	0.4	13.0	0.0	3.7	72	2.7	2	94.7
52	X Ky 134	88.5	20.0	1.0	6.0	0.0	3.1	73	2.3	2	94.8
53	Oh7A X Akh 48	80.0	22.2	7.7	12.7	0.0	4.2	76	2.7	3	90.9
54	X Akh 50	73.1	19.6	4.1	25.4	1.7	4.2	74	3.0	5	93.5
55	X Mo 13	78.5	22.1	3.0	16.6	0.9	4.1	77	2.7	4	95.8
56	Oh7A X Mo 17	84.8	17.3	0.4	18.5	0.0	3.7	73	3.0	3	94.7
57	X N 30	82.1	19.4	1.1	25.3	0.0	4.1	77	3.0	2	92.7
58	X R 134	81.8	19.8	1.9	26.1	3.4	4.2	75	3.0	5	92.7
59	X R 215	74.7	20.3	4.3	33.3	4.2	4.3	79	2.3	4	94.2
60	X T 218	81.3	18.4	1.8	14.3	5.1	4.2	76	2.3	2	93.4

Table 2. (Cont'd.)

Entry Number	Pedigree	Acre Yield bu.	Moist. at harv. %	Lodging Root % Stalk %	Dropped Buds %	Ear ht. ft.	Days to Milk Stage	Husk Score	Ear Rating	Stand %
61	Oh7A X T 224	83.4	18.4	2.0	25.4	4.1	77	2.0	5	92.8
62	X Va. 17	85.8	19.6	3.1	13.8	3.5	74	2.7	2	97.5
63	X Va. 36	78.7	18.6	2.3	19.0	3.6	76	2.0	3	93.3
64	X C 103	90.2	18.6	3.1	21.8	3.9	76	2.0	3	91.7
65	X Oh 29	83.5	18.6	0.8	22.2	4.2	74	3.0	5	91.3
66	Oh7A X CI 21 E	88.6	20.8	2.2	23.0	4.4	78	3.0	3	94.3
67	X CI 38 B	82.2	20.0	5.3	17.7	4.2	75	2.0	3	95.8
68	X Oh 7 B	66.2	19.0	1.4	9.5	3.9	78	3.0	3	91.3
69	X Ky 128	86.3	19.4	0.6	20.3	4.0	77	2.3	2	89.8
70	X Ky 61-1984	82.3	18.8	2.5	24.1	4.4	73	3.0	2	93.5
71	Oh7A X Ky 129	86.0	18.8	0.6	15.4	3.8	76	2.3	2	95.2
72	X Ky 61-2122	80.1	18.9	1.5	14.1	3.5	73	3.0	4	92.3
73	X Ky 130	82.2	18.1	7.5	14.6	3.8	77	2.7	4	94.1
74	X Ky 131	85.0	19.8	5.5	18.1	3.5	72	2.7	3	93.6
75	X Ky 132	82.2	18.3	1.8	20.9	3.9	74	2.9	3	94.6
76	Oh7A X Ky 133	84.2	21.0	1.8	7.0	4.4	78	2.7	3	95.1
77	X Ky 36-11	85.1	21.8	1.0	19.3	4.2	73	2.7	1	93.3
78	X Ky 134	79.8	21.2	2.4	11.5	3.1	74	2.7	2	90.9
79	Mo 6 X Akh 48	87.5	22.1	1.4	14.3	4.5	77	1.7	1	94.9
80	X Akd 50	80.8	19.0	2.1	18.7	3.9	75	2.0	2	95.0
81	Mo 6 X Mo 13	84.3	20.3	2.4	15.3	4.1	75	2.3	2	92.9
82	X N 30	88.2	20.3	4.7	17.0	4.4	75	2.0	2	95.3
83	X R 134	95.1	18.9	13.4	15.7	3.8	74	2.3	4	94.5
84	X R 215	79.2	19.9	1.3	27.3	4.1	77	1.7	2	91.6
85	X T 218	90.5	19.7	2.1	7.7	4.3	77	1.0	1	94.0
86	Mo 6 X T 224	78.7	19.9	1.2	18.0	4.6	76	2.0	3	91.3
87	X Va. 17	87.4	20.3	7.0	17.7	4.0	76	1.7	3	93.4
88	X Va. 36	74.8	19.2	3.2	4.0	3.7	76	2.0	3	92.3
89	X Oh 29	97.7	20.6	4.9	13.1	4.4	75	2.7	3	95.9
90	X CI 21 E	93.1	25.2	2.2	22.4	4.5	77	1.7	2	94.5

Table 2. (Cont'd.)

Entry Number	Pedigree	Acre Yield bu.	Moist. at harv. %	Lodging		Drop %	Ear ht. ft.	Days to Maturity	Husk Score	Bar Appearing	Stand %
				Root %	Stalk %						
91	Mo 6 X CI 38 B	83.9	21.5	5.1	16.9	0.0	4.0	77	1.3	1	96.3
92	X Oh 7 B	95.8	19.1	5.2	7.0	0.0	4.2	78	2.0	2	94.4
93	X Ky 128	82.1	19.9	0.8	10.7	0.0	3.7	78	1.0	3	90.9
94	X Ky 129	79.9	21.2	3.1	6.4	0.0	4.0	76	1.0	3	91.1
95	X Ky 61-2122	79.0	19.4	1.0	17.0	0.0	3.7	76	2.3	3	94.1
96	Mo 6 X Ky 130	96.1	19.3	2.7	11.6	0.0	3.9	75	2.0	2	93.1
97	X Ky 131	88.0	18.9	0.4	5.6	1.7	3.6	76	1.3	1	93.5
98	X Ky 132	85.2	18.5	0.4	13.5	0.0	3.9	76	1.7	2	94.1
99	X Ky 133	87.3	22.5	1.0	5.5	0.0	4.0	77	1.7	2	95.2
100	X Ky 134	71.5	21.0	0.6	25.0	0.0	3.6	76	2.3	2	89.2
Mean		86.0	19.1	2.4	13.8	1.3	3.8	75	2.1	2.6	93.8

1/ Missouri data only

2/ Data from Missouri, Kentucky, Arkansas

3/ Data from Kentucky, Virginia, Arkansas

4/ Data from Arkansas only 1 = good, 2 = medium, 3 = poor

5/ Data from Kentucky only 1 = excellent, 2 = very good, 3 = good, 4 = fair, 5 = poor

REPORT OF THE SUB-COMMITTEE ON UNIFORM TESTS IN THE 700-800 MATURITY SERIES

No double-cross trials were conducted in 1964, and none are planned for 1965. No three-way combinations will be made in 1965.

A combined 700-800 maturity three-way trial was conducted in 1964. Data were summarized from Illinois, Indiana, Iowa, Kentucky, Missouri, Nebraska, Ohio, Pennsylvania, and Virginia. Average hybrid performance for all characters reported is presented in Table 3. Yield data by states is reported in Table 4.

Three-way cross seed available for testing in 1965 represents a combined 700-800 maturity trial in which the two testers are WF9 x Hy2 and B37 x Oh7N. The crosses of which adequate seed is available are as follows:

<u>Line</u>	<u>Origin</u>	<u>WF9</u> x <u>Hy2</u>	<u>B37</u> x <u>Oh7N</u>
R217	(R168 x GE440) R168 BC2 S3	x	x
R218	(W22R x GE440) Oh43 BC2 S3	x	x
R220	(W187R x GE440) 187-2 BC3 S3	x	x
H84	B37 x GE440	x	x
H85	Synthetic B	x	x
H86	Synthetic B	x	x
H89	B14 x GE440	x	x
H90	N6 x CI.82B	x	x
Ia.63:1255	H.D.2271 (SSS)	x	x
Ia.63:1261	H.D.2479 (SSS)	x	x
Mo17	CI03 x CI.187-2	x	x
N7A	Oh7/SSS1	x	x
N7B	Oh7/SSS1	x	x
N8A	187-2/SSS1	x	x
N8B	187-2/SSS1	x	x
Oh61:6160	N15 x CI03	x	x
Oh61:6186	N.S. Syn. #1	x	x
Oh61:6210	N.S. Syn #1	x	x
Mo.17 x CI03		x	x
CI03		x	x
N6		x	x

Wm. R. Findley, Chairman
J. H. Lonnquist
Lowell H. Penny

TABLE 3. Summary of agronomic data obtained in the uniform regional test of 700-800 maturity three-way crosses grown at nine locations in 1964.

Pedigree	Acre Yield	(1) Bu.	(2) Moist. %	(3) Stalk %	(4) Lodging Root %	(5) Ear In.	(6) Height Grade	(7) Dropped Ears %	(8) Days to Silk No.	(9) Ears per 100 Plants No.	(10) Stand %	(11) Stalk Rot %
(WT9 x Hy2) x Ia.62:1214 (H2187)	99.8	19.6	17	1	47	4.0	2	78	98	98	98	2.5
" " x Ia.62:1243	90.7	18.3	12	0	46	4.3	1	76	98	97	97	1.4
" " x Ia.62:1586 (B63)	93.3	18.1	12	2	50	4.7	3	79	83	95	95	2.2
" " x R 214	89.4	20.3	7	6	46	4.0	4	82	85	93	93	1.0
" " x Ind.0b.61:5-9 (H85)	84.5	17.3	15	1	40	3.3	3	77	99	95	95	2.0
" " x Ind.0b.61:80-13 (H86)	95.3	18.3	9	3	40	3.0	3	76	98	97	97	1.1
" " x Ky61:2187	87.4	19.5	11	1	44	3.3	2	79	91	96	96	2.4
" " x Ky61:2210	93.5	18.3	12	3	42	3.3	7	78	84	96	96	1.3
" " x Ky61:2218	94.7	19.6	18	2	48	4.0	3	77	98	96	96	1.4
" " x Pa.422P	86.1	17.8	27	2	44	4.0	3	72	97	90	90	1.4
" " x Va.43	100.5	19.7	16	7	43	3.0	3	78	86	100	100	0.9
" " x Va.44	93.3	20.2	8	1	39	3.0	3	76	97	98	98	2.6
" " x N6	93.5	18.4	14	2	43	3.3	3	76	94	98	98	1.1
" " x N15	99.6	22.9	23	2	47	4.7	4	79	90	100	100	-
Means	93.0	19.2	14.4	2.4	44.2	3.7	3.1	77.4	92.7	96.4	96.4	1.6

TABLE 3. (Continued)

Pedigree	(1) Acres Yield	(2) Moist. %	(3) Lodging		(5) Ear In.	(6) Height Grade	(7) Dropped Ears %	(8) Days to Silk No.	(9) Ears per 100 Plants No.	(10) Stand %	(11) Stalk Rot Score
			Stalk	Root							
	Bu.	%	%	%							
(On 7M x B37) x Ia. 62:1214 (H2187)	101.6	19.1	15	1	46	4.3	0	77	101	98	1.9
" x Ia. 62:1243	101.1	19.1	12	1	49	4.7	2	78	98	98	1.3
" x Ia. 62:1586 (B63)	103.3	19.3	15	4	51	5.0	1	84	94	96	2.1
" x R 214	100.3	21.7	7	14	47	5.0	2	83	86	97	1.9
" x Ind. 06.61:5-9 (H85)	92.9	18.1	10	6	41	3.3	1	76	92	97	1.9
" x Ind. 06.61:80-13 (H86)	104.5	19.3	6	7	40	3.3	1	76	97	99	3.4
" x Ky61:2187	93.4	20.5	8	6	44	4.0	1	78	95	96	1.4
" x Ky61:2210	84.6	19.9	4	1	38	3.3	3	81	90	98	1.1
" x Ky61:2218	100.5	20.4	13	3	45	3.7	2	77	96	98	1.4
" x Pa. 422P	92.8	18.1	27	4	46	4.0	2	76	100	98	1.8
" x Va. 43	115.3	20.6	13	6	43	3.7	3	81	101	99	0.6
" x Va. 44	99.2	20.9	6	4	38	3.0	1	77	94	98	2.3
" x N6	99.8	18.8	9	3	37	3.0	2	76	98	97	2.8
Means	99.2	19.7	11.2	4.6	43.5	3.9	1.6	78.5	95.5	97.8	1.8
(1) Ill., Ind., Ia., Ky., Mo., Nebr., Ohio, Pa., and Va.											
(2) Ill., Ind., Ia., Ky., Mo., Nebr., Ohio, Pa., and Va.											
(3) Ill., Ind., Ia., Ky., Mo., Nebr., Ohio, and Va.											
(4) Ill., Ind., Ia., Ky., Mo., Ohio, and Va.											
(5) Ind., Mo., and Ohio											
(6) Kentucky											
(7) Ill., Ia., Mo., and Nebr.											
(8) Ohio											
(9) Ohio											
(10) Ill., Ind., Ia., Ky., Mo., Ohio, and Va.											
(11) Illinois											

TABLE 4. Yields obtained in the individual states in the uniform regional trials of 700-800 maturity three-way crosses.

	Pedigree	Ill.	Ind.	Ia.	Ky.	Mo.	Pa.	Va.	Ohio	Nebr.
(WF9 x Hy2)	x Ia. 62:1214	104.0	147.0	90.4	97.0	98.7	56.8	101.8	93.4	108.8
"	x Ia. 62:1243	86.0	108.0	76.8	89.9	90.3	56.4	96.0	83.0	129.8
"	x Ia. 62:1586	82.0	125.0	91.2	90.4	94.4	58.4	109.6	73.7	114.8
"	x R 214	83.0	109.0	74.6	98.7	104.5	56.3	112.6	69.2	96.6
"	x Ind. Ob. 61:5-9 (H85)	70.0	82.0	83.7	85.9	87.7	58.2	90.0	74.3	129.0
"	x Ind. Ob. 61:80-13 (H86)	71.0	92.0	102.1	100.1	97.5	76.0	115.9	78.3	125.1
"	x Ky61:2187	88.0	84.0	67.0	91.6	88.7	64.8	104.9	72.7	125.1
"	x Ky61:2210	81.0	101.0	78.6	100.6	98.7	56.9	110.3	81.8	132.2
"	x Ky61:2218	84.0	121.0	92.7	92.1	96.0	62.2	106.1	85.5	112.4
"	x Pa. 422P	64.0	104.0	96.6	87.1	91.9	51.1	95.1	80.2	105.3
"	x Va. 43	87.0	133.0	101.4	106.0	98.5	59.5	104.2	85.1	129.4
"	x Va. 44	78.0	86.0	95.7	90.4	96.9	68.2	109.0	90.2	125.1
"	x Cl03	75.0	--	--	--	103.6	--	--	--	--
"	x N6	65.0	102.0	90.5	83.9	92.2	64.7	106.2	93.0	143.7
"	x N15	--	113.0	89.8	104.2	--	55.9	112.9	84.5	136.9

TABLE 4. (Continued)

	Pedigree	State								
		Ill.	Ind.	Ia.	Ky.	Mo.	Pa.	Va.	Ohio	Nebr.
(Om 7H x B37)	x Ia. 62:1214	110.1	142.0	101.2	96.6	98.6	72.0	106.7	84.6	103.7
"	x Ia. 62:1243	97.0	123.0	90.9	107.0	95.4	72.0	112.2	89.0	123.1
"	x Ia. 62:1586	101.0	143.0	92.5	106.0	100.2	65.4	120.5	84.4	116.4
"	x R 214	100.0	108.0	81.2	105.6	110.1	77.8	139.3	81.7	98.9
"	x Ind. 06. 61:5-9 (H85)	94.0	101.0	90.5	89.3	90.5	58.7	103.2	84.5	124.3
"	x Ind. 06. 61:80-13 (H86)	98.0	98.0	96.6	112.3	99.6	66.8	122.5	110.2	136.9
"	x Ky 61:2187	111.0	89.0	70.0	97.4	95.7	64.9	106.4	98.6	113.6
"	x Ky 61:2210	56.0	66.0	65.0	101.7	87.8	68.9	119.9	79.5	116.8
"	x Ky 61:2218	95.0	116.0	89.1	100.9	92.8	72.8	114.7	99.3	123.5
"	x Pa. 422P	83.0	111.0	105.2	95.2	90.4	50.4	104.6	79.5	115.6
"	x Pa. 419P	105.0	--	--	--	--	52.5	--	--	--
"	x Va. 43	131.0	146.0	108.6	112.0	97.0	71.3	135.2	116.5	120.3
"	x Va. 44	84.0	90.0	100.9	103.8	96.0	52.9	116.1	122.9	126.6
"	x Cl 03	71.0	--	--	--	--	--	--	--	--
"	x N6	92.0	115.0	104.6	91.6	97.5	65.2	111.1	87.4	133.8

REPORT OF THE SUB-COMMITTEE ON UNIFORM TESTS IN THE
400-600 MATURITY SERIES

Sixteen inbred lines contributed by 7 states were crossed to two single cross testers for 3-way trials in 1965. This material will be evaluated by 9 states.

Fourteen lines have been nominated by 4 states for 3-way trials in 1966. Seed for these trials will be produced on two single cross testers by L. F. Bauman.

J. C. Sentz, Chairman
L. F. Bauman
E. C. Rossman

REPORT OF THE SUB-COMMITTEE ON UNIFORM TESTS IN THE
100-300 MATURITY SERIES

Seven stations supplied three inbred lines each for crossing with the single cross A509 x MSL334 as a common tester.

Seed was produced by the Pennsylvania station and Wisconsin Experimental station at Spooner. Seed supply is good except for one line.

The following have indicated a desire to participate in the testing of the 3-way seed in replicated yield trials in 1965.

North Dakota	Pennsylvania
South Dakota	Morden, Canada
Minnesota	Michigan
Wisconsin	

List of inbreds crossed with single cross tester:

SD #10	Penn. 360	CM36
SD 12C	" 362	CM37
SD 14	" W703	CM50
N.Dak. 405	Wis. 681	
N.Dak. 407	" 649	
N.Dak. 408	" 491	
Mich. 64-4	Minn. A554	Type hybrid = W273
Mich. 64-5	" A575	Check in all
Mich. 64-6	" A624	locations

A. M. Strommen, Chairman
J. Sentz
Wm. Wiidakas

REPORT OF THE SUB-COMMITTEE ON CORN ROOTWORM

P. J. Fitzgerald had no formal report. He indicated that it was the opinion of the committee that regional testing might be premature. Testing will be continued in South Dakota, Iowa, and Missouri. It was suggested that all lines being included in regional yield trials should also be included in the rootworm trials.

P. J. Fitzgerald, Chairman
G. E. Scott
Virgil Ferguson

REPORT OF THE SUB-COMMITTEE ON MAIZE DWARF MOSAIC

This committee reported that no formal regional tests were planned. A uniform series of inbred lines of known resistance, based on 1964 readings, is available. These will be grown in those states where maize dwarf mosaic has been reported. It was also suggested that a series of F_2 and backcross populations were available and might be grown by all states planning virus nurseries. It was further suggested that all new lines nominated for inclusion in uniform yield trials be screened for resistance to virus by W. R. Findley in the Ohio field nursery and by A. J. Ullstrup in greenhouse tests.

Wm. R. Findley, Chairman
F. A. Loeffel
A. J. Ullstrup

The Chairman then called for the report of the Nominating Committee. J. H. Lonnquist proposed the name of A. R. Hallauer to serve as the new member of the Executive Committee. L. F. Bauman MOVED that the nominations be closed and the Secretary be instructed to cast a unanimous ballot for Dr. Hallauer. This motion was SECONDED and passed.

There being no further business the meeting was ADJOURNED at 9:30 p.m.

The Executive Committee convened immediately. L. F. Bauman was elected Chairman for 1966. Committee assignments were reviewed and the standing committees with their membership are attached.

OFFICERS and COMMITTEE MEMBERSHIP FOR 1965-1966

Administrative Advisor
N. J. Volk

Executive Committee

J. C. Sentz	1962-1966
L. F. Bauman, Chairman	1963-1967
A. L. Hooker	1964-1968
A. R. Hallauer	1965-1969

Sub-Committees for 1965-1966

Grouping of Lines for Breeding Purposes.

L. F. Bauman, N. P. Neal, W. A. Russell, Chairman

Meeting Place

Paul Crane, D. B. Shank, M. S. Zuber, W. A. Russell, Chairman

Uniform Tests in the 900 Maturity Series.

P. J. Loesch, C. E. Wasson, M. S. Zuber, F. A. Loeffel, Chairman

Uniform Tests in the 700-800 Maturity Series.

W. R. Findley, J. H. Lonnquist, L. H. Penny, Chairman

Uniform Tests in the 400-600 Maturity Series.

L. F. Bauman, E. C. Rossman, J. C. Sentz, Chairman

Uniform Tests in the 100-300 Maturity Series.

Wm. Wiidikas, A. M. Strommen, Chairman

Uniform Tests on Stability and Genotype-Environmental Response of Hybrid Types.

E. R. Leng, E. C. Rossman, M. S. Zuber, S. A. Eberhart, Chairman

Uniform Tests on Corn Rootworm.

G. E. Scott, Virgil Ferguson, P. J. Fitzgerald, Chairman

Uniform Tests on Maize Dwarf Mosaic.

F. A. Loeffel, A. J. Ullstrup, Wm. R. Findley, Chairman

ROSTER OF ATTENDANCE

Arkansas

York, Y. O.

Univ. of Arkansas

Fayetteville

Canada

Brawn, R. I.

Macdonald College

P. Quebec

Donovan, L. S.

Central Expt. Farm

Ottawa, Ontario

Giesbrecht, J. E.

Experimental Farm

Morden, Manitoba

Mortimore, C. G.

Canadian Agr. Res. Sta.

Harrow, Ontario

Illinois

Lambert, R. J.

Univ. of Illinois

Urbana

Rhodes, A. M.

"

"

Indiana

Ashman, R. B.

ARS-Purdue University

Lafayette

Bauman, L. F.

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Glover, D. V.

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Lund, H. R.

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Purdy, S. L.

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